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Transgender Medicine Curriculum: Integration Into an Organ System–Based Preclinical Program

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Abstract

Introduction: There is a recognized and articulated need for health professionals to understand the definitions, health disparities, and medical management of transgender patients. This recognition comes organically from students requesting more information, and top-down from governing bodies such as the AAMC or the Liaison Committee on Medical Education. Surveys of North American medical schools indicate that training in transgender medicine (specifically, the process of transition) is infrequent and inadequate. One problem underlying this trend may be the lack of resources to help conceptualize and roll out a transgender medicine curriculum. **Methods:** Here, we report the integration of training in transgender medicine into the organ system–based course Endocrine-Reproduction. This transgender curriculum includes coverage of basic science, clinical management, ethics, and clinical skills. The curriculum leverages an already existing, health care disparity–focused curriculum but adds (1) a didactic component for dissemination and discussion of basic science principles applied to transgender patients and (2) a mock initial encounter between a physician and patient with gender dysphoria. **Results:** Following the first-time implementation of the transgender curriculum, students were surveyed, with a large majority reporting feeling more prepared to care for transgender patients. **Discussion:** We conclude that including a multidisciplinary transgender medicine curriculum in medical school advances the goal of creating safe, effective physicians by providing fundamental knowledge about an underserved population of patients, as well as exampled application of that knowledge.

Keywords

Transition, Transgender, Gender Identity, Patient Interviewing, Gender Dysphoria, Gender Affirming Hormones

Appendices

A. Transgender Medicine - Beyond X and Y.pptx
B. Assessment of Gender Identity in Transgender Patient - Initial Encounter .docx
C. Transgender Role-Play.mp4
D. Transgender Medicine - NBME-Style Questions .docx

All appendices are peer reviewed as integral parts of the Original Publication.

Educational Objectives

By the end of this session, learners will be able to:

1. Recognize and define terminology related to sex, gender identity, gender expression, and sexuality.
2. Identify the medical and surgical interventions available for transgender patients and describe the potential complications.
3. Describe and utilize first-encounter interview skills with a gender-dysphoric patient seeking counsel regarding transition.
4. Discuss health care disparities faced by transgender patients.

Introduction

Most medical schools provide a curriculum designed to introduce and address the health care disparities faced by LGBT patients (herein referred to as *LGBT curriculum*).[1] Several teaching methodologies have been utilized and reported: lectures, panel discussions, case exercises, and so on.[1-3] Likewise, our institution for years has offered an LGBT curriculum having elements similar to one published on MedEdPortal in 2013.[1] However, more recent generations of students are inherently more aware of these

disparities and terminology upon entering medical school. Consequently, students are requesting a more detailed understanding of the process of gender transition because it is a knowledge gap and because of the recognition that medical management of transgendered patients has unique aspects.

In addition to students requesting more teaching of transgender medicine, there is evidence that it is particularly underrepresented in medical schools. In 2011, *JAMA* published an article overviewing LGBT curricula as self-reported by 132 allopathic and osteopathic medical schools in Canada and the United States.[4] While only 6.8% of schools reported having 0 hours of LGBT curricula in the preclinical years, 70.0% of schools reported having zero coverage of gender transitioning, which was the highest rate among 16 specific LGBT-topic areas. Conversely, the topic areas of sexual orientation, HIV, gender identity, and sexually transmitted infections had zero-coverage rates of less than 30%.[4] Thus, while the overall picture of LGBT curricula in medical schools is positive, transgender medicine is woefully underrepresented. We hypothesize this discrepancy is caused by the acronymic merging of transgender patients with LGB patients in the term *LGBT*. When presented without distinction, medical students' self-assessment of their understanding and abilities surrounding LGBT health tends to focus on sexuality.[5] Transgender medicine does include areas that overlap with LGB medicine; however, there are other aspects of transgender medicine that are unique, such as gender dysphoria, gender-affirming hormone therapy, and gender-confirming surgery. These latter topics may not be presented in relation to curricula focused on nontransgender LGB patient populations, thus creating a need to address transgender medicine separately. In addition to curricular concerns, the paucity of providers offering gender-affirming care motivates us to present students with a more detailed understanding of transgender medicine.

The AAMC recently recognized that the Physician Competency Reference Set (PCRS) is abstract and lacks the context for addressing specific patient populations. Eckstrand, Potter, Bayer, and Englander proposed the use of qualifying statements to provide context to 20 of the 58 PCRS competencies.[6] For example, under the Patient Care domain, competency 1.2 (bold text) can be qualified (italicized text) as follows:

> **Gather essential and accurate information about patients and their conditions through history taking, physical examination, and the use of laboratory data, imaging, and other tests** *by sensitively and effectively eliciting relevant information about sex anatomy, sex development, sexual behavior, sexual history, sexual orientation, sexual identity, and gender identity from all patients in a developmentally appropriate manner.*[6,7]

In creating and emphasizing these qualifiers, the AAMC is clearly advocating for integration of underserved population curricula within a medical school. No longer should LGBT sessions be considered add-ons on top of an already crowded curriculum. With that in mind, we report the integration of a transgender medicine curriculum within the preclinical, organ system–based course Endocrine-Reproduction.

Overall, we sought to create a transgender medicine curriculum that (a) was distinct from the traditional LGBT curriculum, (b) still allowed for transgender patient participation in the health care disparity–focused LGBT curriculum, and (c) integrated seamlessly into the Endocrine-Reproduction preclinical course. The goal was to overview transgender medicine from a basic science and clinical care perspective.

Methods

Audience and Timing

The target audience for the transgender curriculum is the first-/second-year medical student. Student prerequisites include the learning and assessment of the endocrine, male and female reproductive systems (normal and pathologic disciplines) and introductory patient interview skills. Ideally, this curriculum is delivered as part of a multidisciplinary, integrated Endocrine-Reproduction block. The curriculum is specifically relevant to discussion of the pharmacology of gender-affirming therapy, as most medications would have been discussed in other contexts during earlier portions of the Endocrine-Reproduction block. Should this transgender curriculum occur outside of an Endocrine-Reproduction block, it would benefit the audience to add basic pharmacology content, where appropriate. Moreover, a primary care clerkship

experience offered before the transgender medicine curriculum provides early clinical exposures that offer a framework for conceptualizing the provision of gender-affirming care. However, such experience should not be considered a prerequisite.

The placement of the transgender medicine content is best in proximity to (or on the same day as) the aforementioned LGBT curriculum. This is in part logistical, as patient presentations are part of both sessions and persons can serve on both. A second reason is to highlight the unique medical considerations of transgender patients by having an immediate contrast as presented in the LGBT curriculum. For details of this LGBT curriculum, see the MedEdPORTAL publication from 2013.[1] In summary, the LGBT curriculum involves a panel discussion consisting of representatives of the LGBT community, followed by small-group exercises centering on LGBT doctor-patient encounters. This separate transgender medicine curriculum covers other aspects of transgender medicine not addressed in the LGBT curriculum. The components of the transgender medicine curriculum that are disparate from the LGBT curriculum are transgender epidemiology, terminology, pharmacology, management of transition and gender-affirming hormones, and interviewing a patient with gender dysphoria. The transgender medicine components integrated within the LGBT curriculum include access to health care, medical office professionalism, and taking a sexual history.

Educational Approach

The original schedules for these events were as follows:

- 8:20-9:10 am: didactic session on transgender medicine and management of transition (see Appendix A).
- 9:15-9:35 am: transgender patient introduction and Q&A.
- 9:35-9:50 am: mock patient encounter with gender-dysphoric patient (see Appendices B & C).
- 10:00 am-12:00 noon: LGBT health care disparities curriculum, panel discussion, and small-group case exercises.[1]

The educational approaches utilized have been chosen to accomplish a variety of goals. A didactic session provides a means to disseminate relevant information in an efficient, comprehensible way (Appendix A). The learning objectives specific to the didactic session are the following:

1. Define common terms related to gender and sex.
2. Describe the medical and surgical interventions available for transgender patients.
3. Describe the etiology of potential complications of gender-affirming hormone therapy.
4. Discuss the approach to addressing health care needs of transgender patients.
5. Discuss health disparities faced by transgender patients.

The obvious benefit of recruiting a transgender patient to participate is enhanced long-term retention of knowledge through personal interaction and storytelling. Students often voice a desire for these interactions because they remember them better afterward. A requisite for the participating transgender patient is the willingness to perform a realistic mock physician-patient encounter. The mock interview depicts a patient who is presenting for another health reason but who, through careful history taking, is discovered to be presenting with gender dysphoria. To this end, the participant is acting the part of a transgender patient prior to beginning transition. The learning objectives specific to the patient encounter presentation are as follows:

1. Describe an example of a primary complaint of a patient with gender dysphoria.
2. Synthesize professional wording to inquire about the gender identity of a patient.
3. Appropriately address a patient whose gender identity is disparate from their phenotypic sex.
4. Create sensitive and welcoming questions to ask a patient presenting with gender dysphoria.
5. Describe the interprofessional resources available to patients with gender dysphoria.

Utilizing the above learning objectives as guidance, one can craft a list of questions and responses to serve as a script for the mock interview. Moreover, some may find that they can include additional learning objectives after a script or outline has been created. As an example, provided here is a recorded mock patient encounter, with a physician acting the role of a patient with gender dysphoria (Appendix C). A list of example questions utilized by the interviewer can be found in Appendix B. The questions are listed in groups, with headings indicating the purpose of a particular line of questions. For example, under the Assess Support heading, a physician could ask, “Have you talked about this with a doctor or other medical professional in the past?” or “With who have you shared your gender identity?” As indicated above, the preferred option is to conduct the mock interview live with a recruited transgender patient. However, should that option not be available or desired, the Appendix C video could alternatively be used.

Assessment and Evaluation

Following the transgender medicine and LGBT sessions, students were asked to answer a single survey question about the session:

> Reflecting upon (a) your attitude and (b) your understanding of medical issues specific to the LGBT community before and after the sessions on {date}; what thoughts do you have on your preparedness to care for patients who identify as transgender? Is it better, the same, or worse than before the sessions on {date}, and why?

The anonymous survey data were collected and reviewed for reporting below in the Results section.

Continuing with the theme that the content should be integrated into the organ system course Endocrine-Reproduction, multiple-choice questions were created for use on the subsequent assessment (Appendix D). Assessment questions can vary from a focus on basic science (e.g., pharmacology or physiology) to a focus on clinical practice (e.g., professionalism or patient communication). Appendix D contains examples of the former. Unfortunately, we were unable to utilize these questions for the first iteration of the transgender medicine curriculum and thus do not have data on student performance. However, the inclusion of questions on the assessment emphasizes this content is not an add-on but part of integrated education on the endocrine and reproductive systems, and so, we advocate for including them as part of any assessment.

Results

Following this first iteration of the transgender medicine curriculum, we polled students in course evaluations specifically about this session (see details in Methods). Of the 163 students to fill out the overall evaluation, 85 provided feedback for this session (52% response rate). Of the respondents, 73% stated they were more prepared to care for transgender patients than before, and 26% felt equally as prepared. The specific comments below explain the rationale of those students who felt neither better nor worse prepared. Most of the students in this camp referenced prior experience relating to or working with transgendered individuals. Another cohort in this camp summarized the entire session as a lesson in patient respect and sensitivity. Example comments from this group included the following:

- “I believe most of our generation doesn’t have as much qualms or lack of understanding of the LGBT community as does those in years past. However, the LGBT community faces a lot of persecution and on average have significantly more strife in their daily life than I do, and understandably so they may react to the way I say certain things than most other people would. Maybe instead of having [a faculty physician] interview the person on the last day, have a student volunteer to interview him/her so that we can learn from watching a less experienced interviewer.”
- “This is an area of personal interest for me and I knew most of the information prior to any of the lectures. Also LGBT people are people and deserve the same respect and care as anyone else.”
- “Most of the takeaways come down to: they are people too and treat them as such. All of us already know this and for those that don’t, I’m not sure the class will be enough to convince them.”

There was a spectrum of comments from students who felt enlightened by the transgender medicine sessions. The most common comments related to (1) learning how to address someone who identifies as

transgender and (2) learning what the treatment options are for patients interested in transition. Example comments from this group included the following:

- "I feel that my preparedness has skyrocketed. Simply having the right language is an incredible tool as well as hearing from individuals about how they would like to be spoken to and addressed."
- "I feel I have a much better understanding and level of comfort [than] many of my peers at other institutions. This was a great opportunity. I learned a lot and I think it was just as valuable as the other sessions."
- "I had some understanding but the session helped to understand the issue in a clinical context and I think was a very valuable experience."
- "I am not very well versed in the LGBT community. That being said, I do believe that I am an open minded person who is willing to do whatever I can to help my patients in the future. I think that the sessions on 5/27 really helped to expose the diversity that is present within the LGBT community. I am now more confident that I can care for patients who identify as LGBT because of the sessions."

In response to the overall feedback, the sessions will be altered to highlight the basic aspects of transition medical care. This will be enhanced by the addition of National Board of Medical Examiners–style assessment questions to student assessments (examples in Appendix D). Further, we intend to refine the physician-patient encounter to provide teachable moments for students to reflect upon. Time permitting, we may have students participate in a transgendered patient encounter experience.

Discussion

The transgender medicine session reported here has the potential to be adapted to a variety of health professions, including graduate medical education and continuing medical education. As designed, it is suited to integrate seamlessly into an organ system–based medical school curriculum, namely, Endocrine-Reproduction. Some of the concepts included in the transgender medicine lecture can be categorized as an applied pharmacology lesson for students. Overall, we hope this session and its materials can be utilized to better educate health professionals about transgender medicine regarding everything from basic nomenclature to clinical management.

The greatest challenge in designing the transgender medicine session had to do with personnel. At our institution, the desire for this session grew organically from student feedback sent to the course director. When the course director originally conceived the session, it was unclear whether there were any faculty with knowledge and training in caring for transgender patients. Once faculty participants were identified, the next challenge was to define the purpose of the transgender medicine session relative to the LGBT curriculum that already existed. Recruitment and participation of a transgender patient were well appreciated by students but were also a challenge. As already stated, the video provided can supplement a live mock patient encounter should a transgender patient not be available. Lastly, since our postsession surveying of students was limited to one question (for reasons outside the scope of this Discussion), we are limited in our ability to judge the success of this curriculum. Subsequent to next year's transgender curriculum, we will be expanding the surveying of student feedback. In addition, we will be following up with students into their clinical rotations to further gauge the success of this introductory curriculum.

Our planned revisions to future iterations of this curriculum include (1) reemphasizing the pharmacology and clinical management of transition by editing presentation materials and adding National Board of Medical Examiners–style exam questions to the students' assessment, (2) allotting time for some Q&A after the mock interview is conducted, (3) including medical student participation in the mock interview, and (4) adding an in-class assignment for students to do during the mock interview. This last idea will require students to write down three to four behaviors or responses they observe the physician using that dignify the patient encounter as a positive experience. This in-class assignment will also pair very nicely with the video (Appendix C).

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